

Claim Amendments

1-78 (canceled)

79. (new) A low-cost disposable beverage cartridge capable of providing a beverage having a visually appealing crema layer on top of the beverage comprising:

a predetermined amount of flavor-containing materials which provides a beverage when interacted with pressurized water;

a containing chamber for containing said flavor-containing materials, said containing chamber being adapted to receive pressurized water from a pressurized water source and to allow the water to interact with said flavor-containing materials under pressure therein to produce a beverage;

a cartridge outlet opening for discharging the beverage produced in said containing chamber into a container; and

a crema generator located between said cartridge outlet opening and said containing chamber for producing a visually appealing crema for the beverage, said crema generator comprising a filter for filtering the beverage produced in said containing chamber, a collection chamber located downstream of said filter for receiving the beverage from said filter and an orifice located on said collection chamber for the beverage received therein;

wherein the filtration openings of said filter are adapted to be of sufficiently small size to prevent the solid or un-dissolved flavor-containing materials from reaching and clogging said orifice; and

wherein said orifice of said crema generator is adapted to be of sufficiently small size to generate a jet of beverage of sufficiently high speed to cause said visually appealing crema to form in the beverage before said beverage is discharged at said cartridge outlet opening.

80. (new) A low-cost disposable beverage cartridge as defined in claim 79 further comprising a plate member on which said orifice is formed, wherein said collection chamber is formed between said filter and said plate member, and wherein at least one of said filter and said plate member is attached peripherally to said containing chamber.

81. (new) A low-cost disposable beverage cartridge as defined in claim 80 wherein said plate member is adapted to deform under pressure.

82. (new) A low-cost disposable beverage cartridge as defined in claim 79 further comprising a plate member on which said orifice is formed and a second filter, wherein said collection chamber is formed between said plate member and filter and wherein said containing chamber is formed between said filter and said second filter.

83. (new) A low-cost disposable beverage cartridge as defined in claim 79 wherein said generator is adapted to produce said visually appealing crema when the pressure of said pressurized water source is from an in-house plumb system.

84. (new) A low-cost disposable beverage cartridge as defined in claim 79 wherein said generator further comprises a solid surface adapted to receive or contact said jet of beverage from said orifice before the beverage is discharged from said cartridge outlet opening.

85. (new) A low-cost disposable beverage cartridge as defined in claim 79 wherein said generator further comprises a outlet chamber adapted to maintain an amount of the beverage and to receive said jet of beverage during making the drink.

86. (new) A low-cost disposable beverage cartridge as defined in claim 79 wherein said generator further comprises a second orifice adapted to generate a second jet of beverage for colliding with said jet of beverage.

87. (new) A low-cost disposable beverage cartridge as defined in claim 79 wherein said cartridge outlet opening is sealed or closed prior to making beverage to prevent flavor loss of said flavor-containing materials.

88. (new) A low-cost generally bulb-shaped beverage cartridge for brewing a beverage under pressure with pressurized hot water from a beverage machine having a mounting head comprising:

a predetermined amount of flavor-containing materials which provides a beverage when mixed in pressurized hot water from a beverage machine;

a generally water- and air-impermeable chamber for containing said flavor-containing materials, said impermeable chamber being adapted to have a sufficient rigidity and strength to function both as a pressurized brewing chamber for said flavor-containing materials to interact with the pressurized hot water from the beverage machine and as a handle for mounting said beverage cartridge to the mounting head without substantial deformation;

a cartridge inlet having a rigid body and a through-opening for forming a water-tight seal to the mounting head and introducing the pressurized hot aqueous medium into said impermeable chamber, the cross-section area of said cartridge inlet being adapted to be substantially smaller than that of said impermeable chamber, thereby facilitating both the mounting and seal formation of said beverage cartridge to the mounting head;

a filter for the beverage brewed in said impermeable chamber from said flavor-containing materials;

a cartridge outlet comprising a collection chamber for receiving the beverage from said filter and a discharging opening for dispensing the drink into a container, the cross-section area of said cartridge outlet

being adapted to be substantially smaller than that of said impermeable chamber, thereby facilitating the dispensing of the beverage into the container through its mouth; and

wherein said impermeable chamber, said cartridge inlet and said cartridge outlet are formed from a single shot or sheet of plastic material by one of blow-molding and thermal forming processes as one piece without any seal or seam between said impermeable chamber, cartridge inlet and cartridge outlet in order to make said bulb-shaped beverage cartridge a seamless cartridge, thereby significantly reducing the cost of said beverage cartridge by eliminating the normal manufacturing process of sealing or connecting said impermeable chamber, cartridge inlet and cartridge outlet together, and thereby eliminating the safety risk associated with very hot water under pressure that may forcefully eject out of a defective seam of a cartridge and cause hot-water burning to the user when brewing a beverage.

89. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 88 further comprising a bottom opening for said impermeable chamber located at the entrance of said collection chamber of cartridge outlet, wherein said through-opening, filter and bottom opening are so dimensioned that said filter can be connected to the interior of said impermeable chamber to cover said bottom opening without damaging said cartridge inlet.

90. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 88 wherein said impermeable chamber is adapted to have a generally spherical or oval shape to facilitate the formation of said cartridge inlet and cartridge outlet, both of which have a cross-section substantially smaller than said impermeable chamber, during said one of blow-molding and thermal forming processes.

91. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 88 further comprising a crema generator located between said impermeable chamber and said discharging opening for producing a visually appealing crema for the beverage, said generator having an orifice of sufficiently small size adapted to generate a high-speed jet of beverage that is capable of causing said visually appealing crema to form in the beverage before said beverage is discharged at said discharging opening, wherein said filter is adapted to have sufficiently small filtration openings to prevent said orifice from being clogged by said flavor-containing materials.

92. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 88 further comprising at least one of a flange and a thread on the outside of said cartridge inlet for engaging with the mounting head to prevent said beverage cartridge from being dislodged by the pressure therein, wherein said at least one of a flange and a thread, said cartridge inlet, generally water- and air-impermeable chamber and cartridge outlet are formed from said single shot or sheet of plastic material by said one of blow-molding and thermal forming processes as one piece without any seam between them.

93. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 92 wherein said cartridge inlet adopts a generally cylindrical shape to enable said one of a flange and a thread to move into a cylindrical chamber of the mounting head having an engagement member on the inner surface of the cylindrical chamber as one turns said disposable beverage cartridge, wherein said one of a flange and a thread and said through-opening of said cartridge inlet are so dimensioned and positioned that said through-opening of said cartridge inlet receives fittingly an extension tube on the mounting head before said one of a flange and a thread engages to the engagement member of the cylindrical chamber, thereby enabling the extension tube to guide said engagement to ensure flawless mounting of said cartridge inlet into the cylindrical chamber of the mounting head.

94. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 92 further comprising one of a recess and a protrusion on the lower side of said one of a flange and a thread, wherein said cartridge inlet adopts a generally cylindrical shape to enable said one of a flange and a thread to move into a cylindrical chamber of the mounting head having an engagement member on the inner surface of the cylindrical chamber as one turns said disposable beverage cartridge, and wherein said one of a recess and protrusion being adapted to fit to one of a matching protrusion and recess on the engagement member of the mounting head to prevent the beverage cartridge from being turned to be removed from the mounting head when there is pressure in the beverage cartridge, thereby preventing any potential risk of burning by hot water when removing said beverage cartridge.

95. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 88 further comprising a breakable barrier film for sealing said cartridge inlet to prevent flavor loss of said flavor-containing materials, said breakable barrier film being attached a predetermined distance below the top end of said cartridge inlet to the inner surface of said through-opening.

96. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 88 wherein said cartridge inlet is adapted to connect to a mounting head that is hand-held and connected to the beverage machine by a flexible tube, and wherein said flavor-containing materials comprises roasted coffee grounds, thereby allowing a user to dispense a coffee drink to a cup substantially away from the beverage machine.

97. (new) A low-cost bulb-shaped beverage cartridge as defined in claim 88 further comprising a plug of porous materials between said flavor-containing materials in said generally oval or spherical chamber and said cartridge inlet, wherein said flavor-containing materials comprises roasted coffee grounds.

98. (new) A low-cost disposable beverage cartridge capable of providing a beverage having a visually appealing crema layer on top of the beverage comprising:

a predetermined amount of flavor-containing materials which provides a beverage when interacted with pressurized water;

a containing chamber for containing said flavor-containing materials, said containing chamber being adapted to receive pressurized water from a pressurized water source and to allow the water to interact with said flavor-containing materials under pressure therein to produce a beverage;

a crema generator connected to said containing chamber for producing a visually appealing crema for the beverage, said crema generator comprising a filter for filtering the beverage produced in said containing chamber, a collection chamber located downstream of said filter for receiving the beverage from said filter and an orifice located on said collection chamber for the beverage received therein;

wherein the filtration openings of said filter are adapted to be of sufficiently small size to prevent the solid or un-dissolved flavor-containing materials from reaching and clogging said orifice; and

wherein said orifice of said crema generator is adapted to be of sufficiently small size to generate a jet of beverage of sufficiently high speed to cause said visually appealing crema to form in the beverage.

99. (new) A low-cost disposable beverage cartridge as defined in claim 98 wherein said filtration openings of said filter have a size of approximately 0.01 to 0.2 millimeters.

100. (new) A low-cost disposable beverage cartridge as defined in claim 98 further comprising a plate member on which said orifice is formed, wherein said collection chamber is formed between said filter and said plate member, and wherein at least one of said filter and said plate member is attached peripherally to said containing chamber.

101. (new) A low-cost disposable beverage cartridge as defined in claim 98 further comprising a plate member on which said orifice is formed and a second filter, wherein said collection chamber is formed between said plate member and filter and wherein said containing chamber is formed between said filter and said second filter.

102. (new) A low-cost disposable beverage cartridge as defined in claim 98 wherein said orifice is adapted to direct said jet of beverage into a chamber adapted to maintain an amount of beverage therein during the use of said beverage cartridge.